**Area of Impact: Health/Politics and Government**

**4.** The National Health Service in Britain is planning to make patients’ health records more easily accessible using a network of integrated databases. This is intended to improve the quality of care and efficiency, reduce paperwork and sometimes even save lives. However, easier access to medical data from a single resource shared by everyone, also makes some patients feel vulnerable. Many people are worried about issues such as network failure, data integrity and data security. The government is currently considering three possible scenarios.

(i) Impose the shared electronic records service with the details of everyone

automatically included.

(ii) All citizens, by default, will be included in the new electronic records service with the

possibility to “opt out” if they wish.

(iii) People will be asked to “opt in” if they want to.

(a) Define the terms *data integrity* and *data security*. *[2 marks]*

(b) Describe how an integrated/centralized medical database system improves the

integrity **and** security of data compared with distributed independent databases. *[4 marks]*

(c) Explain how the integrated database system could make use of private key/

public key encryption in order to safeguard patients’ data. *[4 marks]*

(d) Discuss the possible issues to be considered by patients when they decide

to “opt in” or “opt out” of the electronic records service proposed by the

National Health Service. *[10 marks]*